



Fear of Missing Out (FOMO) among youth in Bosnia and Herzegovina — Scale and selected mechanisms

Łukasz Tomczyk^a,  , Elma Selmanagic-Lizde^b

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Highlights

- About 30% of young Internet users in Bosnia and Herzegovina are at risk of FOMO.
- One in five adolescents in Bosnia and Herzegovina has full symptoms of FOMO.
- PIU is not gender-related.
- Having a hobby is one of factors protecting from FOMO.
- Parental control minimizes inadequate use of new technologies.
- Parental control is a factor that significantly protects from FOMO.

Fear of Missing Out (FOMO) among youth in Bosnia and Herzegovina — scale and selected mechanisms

Abstract

Internet addiction takes on different forms and is an important issue for diagnostic and preventive reasons. This paper sets out to diagnose the scale of problematic use of Internet (PIU) in the context of symptoms and mechanisms of FOMO (Fear of Missing Out). For this purpose, triangulation of the following research tools was applied: Social Media Intensity Scale, Fear of Missing Out Scale, Summary of Social Media Use, Social Media Usage Urges, the Bergen Facebook Addiction Scale. To picture the scale of FOMO and accompanying PIU behaviors, data from 717 students in Sarajevo and Mostar cantons (Bosnia and Herzegovina) were collected. The research was conducted in 2nd half of 2017. Based on this data, we can see that about 20% of young respondents (average age of 13 years) show several FOMO symptoms, whereas another 30% belong are at risk of being addicted to Internet. The remaining 50% of students are not at risk of IAT. These criteria vary due to lack of unified

tools to measure FOMO. However, it has been observed that FOMO is minimized by some forms of leisure activity and does not depend on gender.

Key words: Internet addiction, IAT, FOMO, Fear of Missing out, Youth, Problematic Using Internet, PIU, Bosnia and Herzegovina

1. Introduction

1.1 Internet addiction and FOMO

Data gathered in years 2011-2012 in seven European countries allowed to estimate that about 12.7% young Internet users are classified as having symptoms of Internet addiction (Tsitsika et. al., 2014). Another data collected in the project EU KIDS Online provided estimates that about 29% of young new media users have from one to five symptoms of Internet addiction (Šmahel, Blinka, 2012). For many years, Internet addiction among young people has been a diagnostic, educational and preventive challenge, raising numerous questions and provoking discussions about the scale and mechanisms of this process.

Criteria of classifying Internet use as destructive, threatening or asymptomatic, have been discussed in psychology and media pedagogy since Internet became prevalent. One of the most popular methods of measuring addiction is Internet Addiction Test (IAT) containing characteristics of 20 most common symptoms of Internet abuse. Respondents evaluate certain statements by filling in a questionnaire form. According to IAT, ways of using Internet can be classified into three categories: functional, at risk of abuse, abusive (Young, 2007). Young's classification will also determine typology of FOMO phenomenon in this article. This classification is also in consistent with other typologies of three-phase mechanisms of development of Internet addiction. At first, Internet — as in case of non-addicts — is a source of information, entertainment, work, communication. It means its resources are effectively utilized. In the second phase, users engage in excessive use of the Internet, not necessarily correlated with their real needs (e.g. doing school assignments or work-related). The last stage involves destructive behavior when addicted individuals limit or totally withdraw from their professional, family, social, leisure activities in order to use network devices (Augustynek, 2010; Tomczyk, 2015).

Classic signs of Internet addiction include: constant thinking about online activities, even in situations that are not adequate; psychosomatic symptoms in case of withdrawal — stopping using new media; increased tolerance — prolonged time of engaging in online activities without reasonable need; struggling with self-control when it comes to time spent in the Internet; lack of interests in things outside the network and limiting social interactions for the

benefit of online activities; using Internet to forget about negative consequences in the real world; frequency of using media is kept secret from the loved ones (Medenica, Račić, & Joksimović, 2015).

Internet addiction is a very broad term covering several types of addictions mediated by electronic media. These addictions include, for example: shopping, virtual sex, games, social network services (SNS), smartphones, online gambling, cyber-relationships, file downloading — namely, e-services that provide positive stimulation for users (Mihajlov, Vejmelka, 2017; Rębisz, Sikora, 2016; Wąsiński, Tomczyk, 2015; Kačániová, Bačíková, 2016). All the above mentioned Internet addiction types fit into category of problematic Internet use (PIU) (Vejmelka, Strabić, Jazvo, 2017), that is, situations considered risky but, due to lack of clear diagnostic criteria, their unambiguous evaluation is impossible. PIU is also treated as a synonym for symptoms of one of the types of Internet addictions. FOMO is one of the new types of Internet addictions, that is particularly noticeable among young generation, partly thanks to popularization of smartphones.

FOMO is an acronym for Fear of Missing Out. It involves anxiety and rapid, impulsive urge to use Internet (SNS in particular) when being offline. FOMO is connected with a strong need to stay online, receive media messages, passively or actively participate in information exchange through SNS, online games and other types of webpages and Internet services. Failure to meet this — in most cases inadequate — need evokes negative emotions (Hetz, Dawson, Cullen, 2015; Przybylski et. al., 2013). Contrary to general symptoms of addiction, FOMO is related with the category of newness — receiving new information that become gratification source for users. FOMO is a social construct connected with lack of access to various forms of information (text, multimedia) (Hetz, Dawson, Cullen, 2015). It is related to shift in communication standards among young generation that relies on communication mediated by online communicators and SNS. FOMO shows new mechanisms of information exchange processes among adolescents (Chotpitayasunondh, Douglas, 2016). The phenomenon is noticeable by the significant ones in the process of education and is interpreted in different ways, e.g. as young people's fashion to use electronic media like it used to be with other electronic gadgets. Many parents have serious concerns about this phenomenon (Radesky et. al. 2016). Researchers studying FOMO associate this behavior with other electronic media-related mechanisms such as multitasking (Reinecke et. al., 2017), information noise and smog, and information pressure (Barber, Santuzzi, 2017), mental health problems (Wiederhold, 2017), changes in behavior caused by SNS (Fox, Moreland,

2015). FOMO becomes a new area of scientific research for educators and psychologists thanks to, among others, changes determined by ICT.

There are different approaches to FOMO diagnosis. Abel, Buff, Burr (2016) suggest measuring the phenomenon in terms of impulsive checking online and SNS resources in different situations. Przybylski, Murayama, DeHaan, Gladwell (2013) locate FOMO more in the area of social behaviors, peer relationships and quality of such relations. The new media component is an addition to such approach to FOMO. Hetz, Dawson, Cullen, (2015) point out that FOMO occurs as logging to SNS in inadequate situations, e.g. right before going to sleep, after waking up or during meals. FOMO is also directly associated with SNS addiction, like it is in case of the Bergen addiction scale (Andreassen, Torsheim, Brunborg, Pallesen, 2012). Many approaches towards FOMO result from the lack of unambiguous diagnostic criteria like the ones developed, for example, in case of addiction to computer games (Király et. al., 2014; Smohai et. al., 2016; Király et. al., 2017). FOMO also involves behaviors connected with fear of having no access to traditional information channels, such as television or radio (Conlin, Billings, Averset, 2016). However, in this aspect, the phenomenon occurs among older generations of users.

1.2 Scale of Internet addiction and FOMO

Addiction to new technologies is hard to measure. Researchers identify various classification methods of the problem, based on intensity of using new media. For example, Fuster, Chamarro, Oberst (2017) present four levels of new technologies usage: low use, high use, low risk, high risk. First two groups consist of 36.82% of respondents. 25.36% are at low risk of FOMO, whereas 37.21% are at high risk. In most cases, the respondents were adolescents (Fuster, Chamarro, Oberst, 2017). Research conducted in Sarajevo canton (N=1941) in 2010 revealed that about 60% of young people use new technologies between 1 to 3 hours every day. Report authors pointed out that few years earlier about 6% of respondents used new media more than 6 hours a day. Over the years, however, we can observe that the amount of time spent in the Internet is growing. This has become a global trend (Livingstone, 2017). We should also add that 65.7% of young users emphasize that their parents are hardly ever or never interested in their online activity. The research also showed that individuals who use SNS intensively show many more general symptoms of Internet addiction than those who are more self-controlled in this regard (Smailbegović, Kokić, 2011). Another research, conducted in 2015 (N=226) in Tuzla (B&H), confirms that full symptoms of Internet addiction are

present in 17.3% of young respondents. PIU-related issues are connected with a range of psychological problems such as: depression or anxiety (Begovic, et al., 2015).

Internet use is first in the hierarchy of activities preferred by young people in B&H (83.5%). Then comes: listening to music (81%), meetings with friends (65%), watching television (56.5%), reading books (38.7%), sport (33%). More than 26% of adolescent respondents spend over 4 hours a day online, most often to: stay logged into SNS (29.9%), read new information (26.6%), search for different useful information (13%) (Žiga et. al., 2015). In B&H, 99.8% of young users regularly use Internet. More than 72% connect to the network via their mobile phones. Recent studies (N=1183, 2016) show that 17.8% of respondents declare they use Internet for more than 6 hours a day. Thus, when we compare results of recent studies with the earlier ones (Žiga et. al., 2015), time spent by young people on using new technologies systematically increases. The most popular reason adolescents log into the network is to initiate or sustain contact with friends (80%). More than 40% use Internet to prepare for classes, 25 % use it to play online games, while 14.6% stays online without any particular reason. The vast majority of young people from B&H stay online longer than they initially planned (73.1%), more than half (51%) use network to avoid thinking about their problems, one in three individuals have problem with resigning/moving away from computer (36.3%), almost 1/3 (29.9%) of young people notice their activity in e-media space has increased, whereas 17.1% lied to others about the time they use Internet. Gender is not statistically relevant when it comes to Internet addiction. Data collected by organization “Udruženje za prevenciju ovisnosti NARKO-NE” (The NARKO-NE Addiction Prevention Association) show that young people in B&H most often have symptoms of addiction to: marihuana (9%), Internet (21.7%), cigarettes (27.3%), alcohol (30.7%), gambling (38.6%), hookah (51.8%) (Hasanović, 2016). It is worth to point out that general population of Internet users in B&H does not differ significantly from the ones in other European countries. According to Internet Usage in the European Union - 2017 data, the average value of Internet penetration was 85.7%, while in B&H it was about 69.3% and was similar to countries like: Croatia, Greece, Poland, Portugal (Internet World Stats, 2017).

1.3 Conditions of FOMO

When analyzing FOMO and its conditions, we need to consider the fact that SNS have become the main leisure activity, especially among adolescents. SNS may become the source of addiction just like other Internet services (e.g. shopping, gambling, virtual sex-dates). Addiction to popular SNS, such as Facebook or Instagram, are one of the examples of Internet

addictions. Thus, FOMO may be one of the types of addiction to SNS, smartphones or waiting for new messages in online communicators (Kuss, Griffiths, 2017).

FOMO is strongly correlated with problematic use of smartphones or fear of negative and positive peer judgment. Anxiety about opinion of others is an intermediate variable that determines both, positive and negative, use of new media (Wolniewicz et. al., 2017). Social construct of FOMO also assumes such elements as: desire to be popular, fear of rejection, fulfilling need to belong mainly by being online in virtual peer groups (Beyens, Frison, Eggermont, 2016). FOMO affects mostly young people with lowered mood and satisfaction from life, but also people who are very active online. It is most often present in young users who have reduced concentration span e.g. during classes (Przybylski et. al., 2013). Intense use of SNS is moderately connected with symptoms like: DSM-5 attention disorder, hyperactivity / impulsiveness, ODD, loneliness. FOMO, in turn, is often accompanied by symptoms of depression (Barry et.al., 2017; Elhai et. al., 2016).

Determinants of IAT, and thus FOMO, also include motivation to use new media. This type of motivation determines destructive or constructive ways of using the Internet. “Escape motive” involves: desire to run from problems, sadness, loneliness, inner urge. “Social motive” is connected with: desire to be “up-to-date”, interest in other people’s activities, desire to keep in touch with friends, looking for new experiences. Third factor — “boredom motive” — involves lack of other alternatives of spending free time (Mróz, Solecki, 2017; Solecki, 2017).

2 Methods

The research objective was to diagnose scale of FOMO in different aspects, among people in the initial stage of adolescence. Additionally, when formulating specific objectives, researchers focused particularly on different perspectives of FOMO, connected with multitude of services available in a developing information society. Thus, the specific objective was to present different perspectives of perception of FOMO.

2.1 Research tools

To complete the research objectives, popular measuring tools were used, that measured degree of susceptibility to novelty in social relations, ways of using social media and strategies of using digital social resources. The tools also included metrics measuring socio-

demographic characteristics of the sample. Triangulation of the research tools involved the following seven methods:

Social Media Intensity Scale (Ellison, Steinfield, Lampe, 2007) — showing intensity of new media use. The tool consisted of 6 questions.

Fear of Missing Out Scale (Przybylski, Murayama, DeHaan, Gladwell, 2013) — allowing to answer questions to what extent a person is susceptible to remain in permanent contact with their friends and how such relations (including receiving information) depend on close friends. The tool evaluates mainly the sphere mediated by new media. The module has 8 questions.

Summary of Social Media Use (Hetz, Dawson, Cullen, 2015) — measures new media use in inadequate situations, for example, during meals, right before going to sleep or as first activity in the morning. The tool consists of 5 questions.

Social Media Usage Urges (Abel, Buff, Burr, 2016) — provides insight into logging in SNS in social situations (e.g. during classes or meetings with friends). The test consists of 4 questions.

The Bergen Facebook Addiction Scale (Andreassen, Torsheim, Brunborg, Pallesen, 2012) — evaluates ways of using SNS and consequences of misuse of SNS. The tool is a modified version and consists of 6 questions.

Parents control (Tomczyk, Wąsiński, 2017) is a modified version of the tool measuring the scale and parental control over safe use of Internet by children and youth in home environment. The tool enables partial diagnosis of digital competences (safety aspect) among adults. This module includes 5 questions.

The last element is an 8-question test showing the scale of hobbies not related directly to new technologies (Tomczyk, Vanek, 2017). The questions cover such aspects as: meetings with friends, reading, home chores, watching TV, occasional work, education and other forms of activities outside of school.

Each method uses classic Lickert scale. Every answer includes the same 5-point Lickert-type items: 1 - not at all true of me, 2- slightly true of me, 3 - moderately true of me, 4 - very true of me, and 5 - extremely true of me.

The whole tool is highly internally consistent, at level of 0.892 (Cronbach's alpha).

2.2 Research procedure

Schools were selected randomly. Based on data available in national school register, schools were drawn in a way to meet the sample criteria. The whole population of school students in

Sarajevo and Mostar cantons amounted up to 54.5 thousand students. The research was conducted among 717 students, which allows to generalize the results at the confidence level of 0.99, with maximum error 5%. Participation in the survey was voluntary. School managements agreed for the research to be conducted in their schools In selected schools, possibility to conduct the research was consulted with school supervisory authorities. The research was completely anonymous.

2.3 Sample characteristics

The survey was conducted in the second half of 2017, in the Federation of Bosnia and Herzegovina. The research was carried out among students of public schools in Mostar and Sarajevo. Average age of the respondents was 13 years with SD=5.59 and median 13. Questionnaires were filled in by 378 girls (47%) and 339 boys (43%). The vast majority of students evaluated their family wellbeing as very good (N=498, 70%), only 2% (N=11) indicated their family financial situation is poor, whereas 28% (N=208) claimed their financial situation is adequate to meet the needs of family members. Parents' educational background was similar, both for mothers (higher 45%, secondary 43%, primary 8%, none 4%) and fathers (higher 46%, secondary 45%, primary 5%, none 4%).

3. Results

3.1 Distribution of variables

Social networking services (SNS) are very important part of young people's lives and a significant part of their daily activities — according to several dozen of respondents. Over a dozen percent declares that sharing their experiences in SNS are extremely important activities. More than 1/4 of the respondents say they feel part of SNS, what is also reflected in the presence of negative emotions when they are offline. Internal consistency factor for the test was 0.853.

Table 1 Social Media Intensity Scale

	1 - not at all true of me		2- slightly true of me		3 - moderately true of me		4 - very true of me		5 - extremely true of me	
	N	%	N	%	N	%	N	%	N	%
Social media is part of my everyday life	58	8.12	189	26.47	207	28.99	136	19.05	127	17.79
I'm proud to tell people I'm on social media	206	28.85	219	30.67	160	22.41	66	9.24	64	8.96

Social media has become part of my daily routine	133	18.63	165	23.11	167	23.39	107	14.99	144	20.17
I feel out of touch when I haven't logged onto social media for a while	261	36.55	193	27.03	96	13.45	83	11.62	81	11.34
I feel I am part of the social media community	187	26.19	223	31.23	161	22.55	79	11.06	64	8.96
I would be sorry if social media shut down	131	18.35	146	20.45	134	18.77	90	12.61	215	30.11

Another aspect of FOMO analysis is connecting online activities with the ones in the real world. Considering distribution of variables for Fear of Missing Out Scale, we can notice that only few to a dozen or so percent students (depending on adopted perspective) can be classified as dependent on staying in touch with others in the real space. For over 40% of young people, loosing opportunity to meet in the real world is uncomfortable. Internal consistency factor for this test was 0.761.

Table 2 Fear of Missing Out Scale

	1 - not at all true of me		2- slightly true of me		3 - moderately true of me		4 - very true of me		5 - extremely true of me	
	N	%	N	%	N	%	N	%	N	%
I fear others have more rewarding experiences than me.	392	54.9	183	25.6	78	10.9	28	3.92	31	4.34
I get worried when I find out my friends are having fun without me.	210	29.4	217	30.3	139	19.4	65	9.10	85	11.9
I get anxious when I don't know what my friends are up to.	416	58.2	158	22.1	73	10.2	34	4.76	35	4.90
It is important that I understand my friends "in jokes."	87	12.1	176	24.6	212	29.6	96	13.4	139	19.4
Sometimes, I wonder if I spend too much time keeping up with what is going on.	199	27.8	177	24.7	143	20.0	82	11.4	110	15.4
It bothers me when I miss an opportunity to meet up with friends.	90	12.6	138	19.3	173	24.2	89	12.4	217	30.3
When I have a good time it is important for me to share the details online	367	51.4	162	22.6	70	9.80	46	6.44	68	9.52

(e.g. updating status).										
When I go on vacation, I continue to keep tabs on what my friends are doing.	135	18.9	199	27.8	156	21.8	82	11.4	141	19.7

Almost one in three respondents check SNS right after waking up in the morning. Similar percentage of declaration was noticeable among young people who eat their evening meal while using SNS. For some young people, SNS becomes a repository of links and space to communicate with peers. Internal consistency factor for the test was 0.851.

Table 3 Summary of Social Media Use

	1 - not at all true of me		2- slightly true of me		3 - moderately true of me		4 - very true of me		5 - extremely true of me	
	N	%	N	%	N	%	N	%	N	%
How often did you use social media in the 15 minutes before you go to sleep?	227	31.79	163	22.83	109	15.27	66	9.24	152	21.29
How often did you use social media when eating lunch?	416	58.26	131	18.35	62	8.68	39	5.46	69	9.66
How often did you use social media when eating supper?	126	17.65	148	20.73	165	23.11	85	11.90	193	27.03
How often did you use social media in the 15 minutes before you go to sleep?	422	59.10	120	16.81	74	10.36	21	2.94	80	11.20
How often did you use social media when eating breakfast?	442	61.90	97	13.59	63	8.82	35	4.90	80	11.20

Loneliness is one of the most important factors that motivate to log into SNS. Almost one in five people declare they log into SNS without any particular need. Every tenth person uses SNS while being in company of others. More than 8% use SNS often or very often during school classes. Internal consistency factor for the test was 0.784.

Table 4 Social Media Usage Urges

	1 - not at all true of me	2- slightly true of me	3 - moderately true of me	4 - very true of me	5 - extremely true of me

	N	%	N	%	N	%	N	%	N	%
Urge to check social media when you're with others.	315	44.1	217	30.3	102	14.2	35	4.90	48	6.72
Urge to check social media when you are unable to log on for any reason.	286	40.0	198	27.7	98	13.7	64	8.96	71	9.94
Urge to check social media when you're in class	524	73.3	93	13.0	40	5.60	23	3.22	37	5.18
Urge to check social media when you're alone	93	13.0	169	23.6	166	23.2	74	10.3	215	30.1

Several to over a dozen percent of the respondents exhibit symptoms of destructive use of SNS. Almost 1/4 of the group tried to limit their use of SNS but failed. It is interesting that one in five young people use SNS to avoid thinking about their problems. Only few percent of students say that using SNS translated into their negative results at school. Internal consistency factor for the test measuring SNS addiction was 0.704.

Table 5 Bergen Addiction Scale

	1 - not at all true of me		2- slightly true of me		3 - moderately true of me		4 - very true of me		5 - extremely true of me	
	N	%	N	%	N	%	N	%	N	%
Spent a lot of time thinking about SNS or planned to use SNS	400	56.02	186	26.05	73	10.22	33	4.62	25	3.50
Felt an urge to use SNS more and more	363	50.84	173	24.23	106	14.85	36	5.04	39	5.46
Used SNS in order to forget about personal problems	290	40.62	162	22.69	120	16.81	55	7.70	90	12.61
Tried to cut down on the use of SNS without success	201	28.15	194	27.17	147	20.59	65	9.10	110	15.41
Become restless or troubled if prohibited from using SNS	352	49.30	160	22.41	83	11.62	35	4.90	87	12.18
Used SNS so much that it had a negative impact on academic	479	67.09	118	16.53	61	8.54	25	3.50	34	4.76

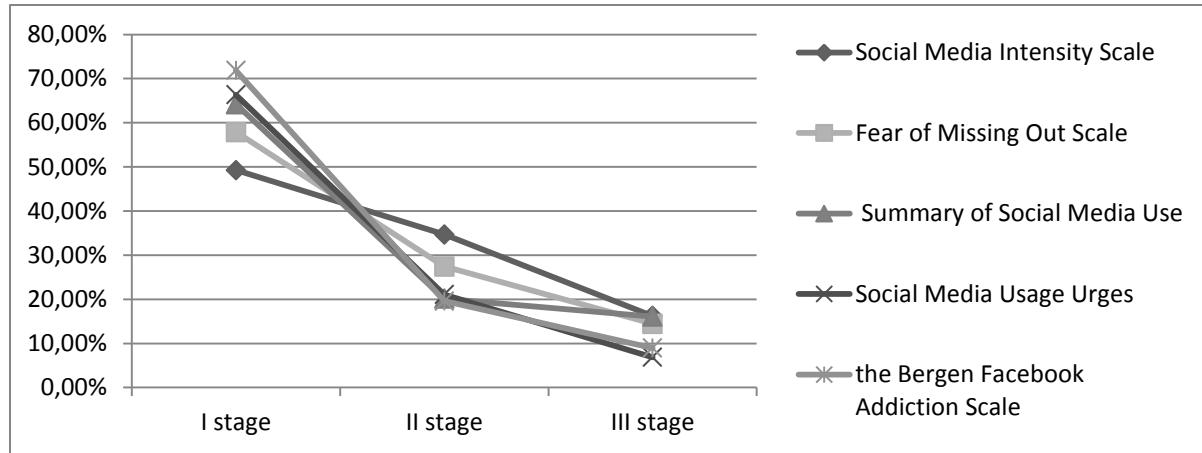
The vast majority of the respondents declares their parents do not control their children's online activity. Students say one in five parents regularly check when and how long their children use new media. Slightly more adults are interested what types of network resources their children use. The least percentage control what types of games children play. Internal consistency factor for the test was 0.845.

Table 6 Parents' control over new media use

	1 - not at all true of me		2- slightly true of me		3 - moderately true of me		4 - very true of me		5 - extremely true of me	
	N	%	N	%	N	%	N	%	N	%
Parents determine the rules of e-activity of students and they monitor their compliance.	269	37.68	145	20.31	134	18.77	51	7.14	118	16.53
Parents determine the time of the day and time devoted to e-activity by students	295	41.32	151	21.15	119	16.67	59	8.26	93	13.03
Parents determine types of software which students may install on their computers	339	47.48	110	15.41	111	15.55	52	7.28	105	14.71
Parents determine types of computer games which students are allowed to play	437	61.20	93	13.03	90	12.61	31	4.34	66	9.24
Parents determine types of websites which students are allowed to visit	333	46.64	110	15.41	98	13.73	65	9.10	111	15.55

Considering the three models of new media usage, namely (Young, 2007; Augustynek, 2010; Tomczyk, 2015): functional, showing some symptoms of addiction and exhibiting full symptoms — the average value for each test was calculated to present the scale of FOMO. Despite various diagnostic approaches to FOMO used in the research, we can notice that certain tests show similar level of functional, problematic and destructive use of new media. It is estimated that up to 20% of the respondents may have all FOMO symptoms, whereas 20% to 30% use new media in a dysfunctional/risky way (addiction risk limit).

Figure 1 Stages of using new media among adolescent in Bosnia and Herzegovina



3.2 Conditions of FOMO

Intensity of using SNS is significantly related with destructive consequences of FOMO. The more intense use of SNS, the greater risk of FOMO in the real world, and the less control over the ways and times of using this type of services and over SNS addiction. Young people who do not experience parental supervision much more often use media in situations and time inadequate to their age and circumstances. Gathered data imply that parental control is not enough to protect from all aspects of FOMO. The phenomenon is connected with destructive use of SNS and is very strongly correlated with using media in time designed for other activities like sleep or eating. Destructive behavior in certain area of new media use is correlated with other risk areas related to self-control and social relationships. It is also observable that the older children, the less parents control the way they use new media.

Table 7 Conditions of FOMO

	.28	.61	.99	.93	.97	.76	0.34	5.76
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*p<0.05; **p<0.001

Due to low internal consistency (Cronbach's alpha=0.515) of the module related to hobby, a detailed internal analysis of PIU-related factors has been performed. The data imply that regular reading books and magazines reduces the risk of FOMO 1. Social Media Intensity Scale (-0.11**), 3. Summary of Social Media Use (-0.20**), 4. Social Media Usage Urges (-0.14**), 5. the Bergen Facebook Addiction Scale (-0.15**). Engaging in household chores is also a noticeable protective factor 1. (-0.16**), 3 (-0.22**), 4. (-0.20**), 5. (-0.16**). Offline activity is, thus, one of the factors that minimize FOMO.

The results showed that gender is a non-differentiating factor when it comes to new media use. Only in inadequate situations, boys use SNS much more often than girls but, despite statistical relevance, this difference is not big. So, in the initial stage of adolescence gender does not differentiate FOMO visibly.

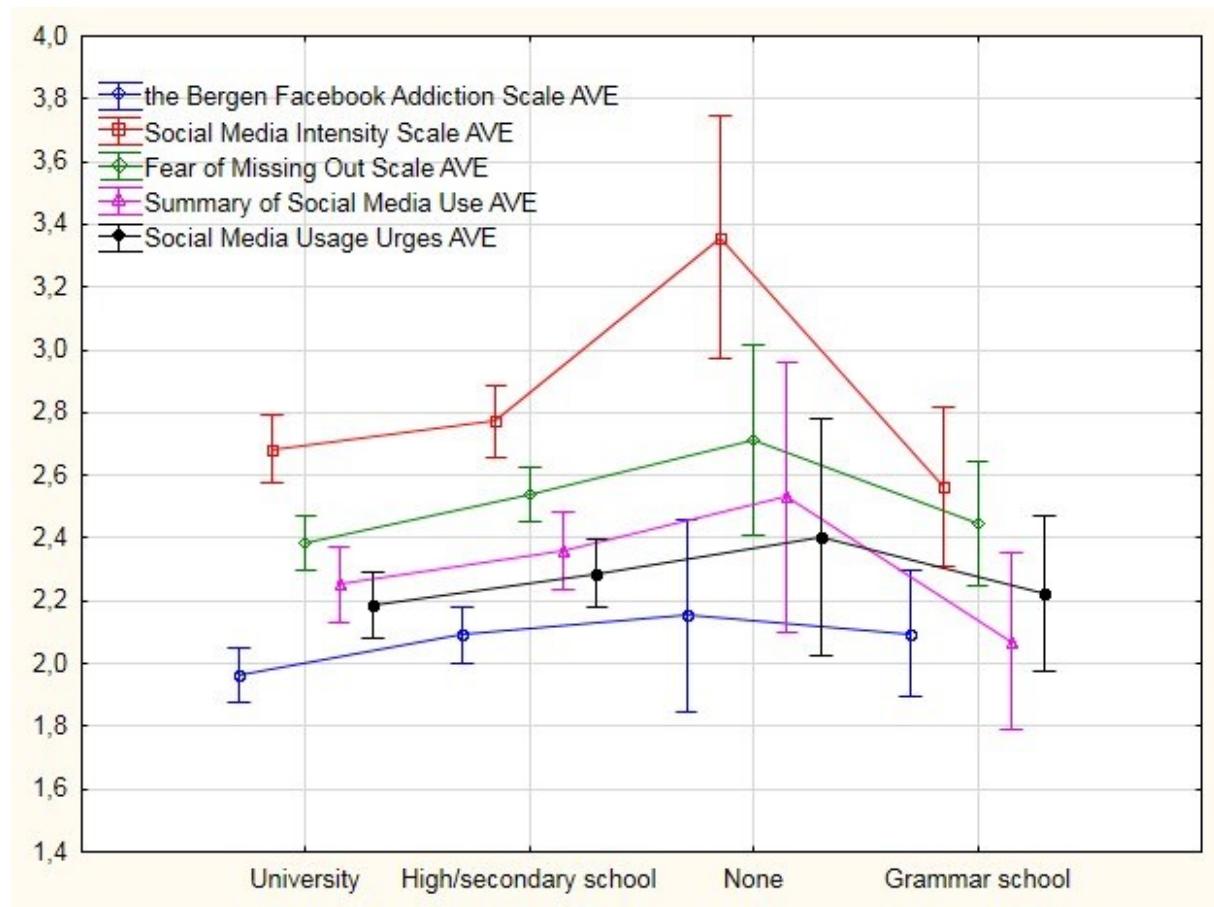
Table 8 Differences in PIU and gender

	AVG girls	AVG boys	t	p	N boys	N girls	SD SD girls	SD boys	F	- 95.000	+95.00 0%
Social Media Intensity Scale	2.7937 17	2.67399 8	1.5917 15	0.1118 87	382	341	1.01200 8	1.0068 40	1.0102 91	0.0279 45	0.2673 84
Fear of Missing Out Scale	2.4937 97	2.43835 2	0.9402 51	0.3474 06	380	339	0.81750 8	0.7564 49	1.1679 50	0.0603 27	0.1712 17
Summary of Social Media Use	2.2821 99	2.30439 9	0.2679 88	0.7887 85	382	341	1.08999 1	1.1359 93	1.0861 89	0.1848 34	0.1404 34
Social Media Usage Urges	2.3265 71	2.15102 6	2.4087 67	0.0162 56	382	341	1.01183 7	0.9390 97	1.1609 13	0.0324 67	0.3186 21
the Bergen Facebook Addiction Scale	2.0558 46	2.01710 7	0.6543 26	0.5131 11	382	341	0.77926 6	0.8116 50	1.0848 41	0.0774 96	0.1549 76
Parents control	2.3235 60	2.16070 4	1.9411 66	0.0526 27	382	341	1.17695 3	1.0662 65	1.2183 93	0.0018 54	0.3275 66

Subjective evaluation of family financial standing does differ significantly PIU among the groups declaring their family economic situation as good or very good. However, we can notice slightly higher and more spread PIU results among young people who declare that their family lives at low financial level. These dependencies are not statistically relevant though.

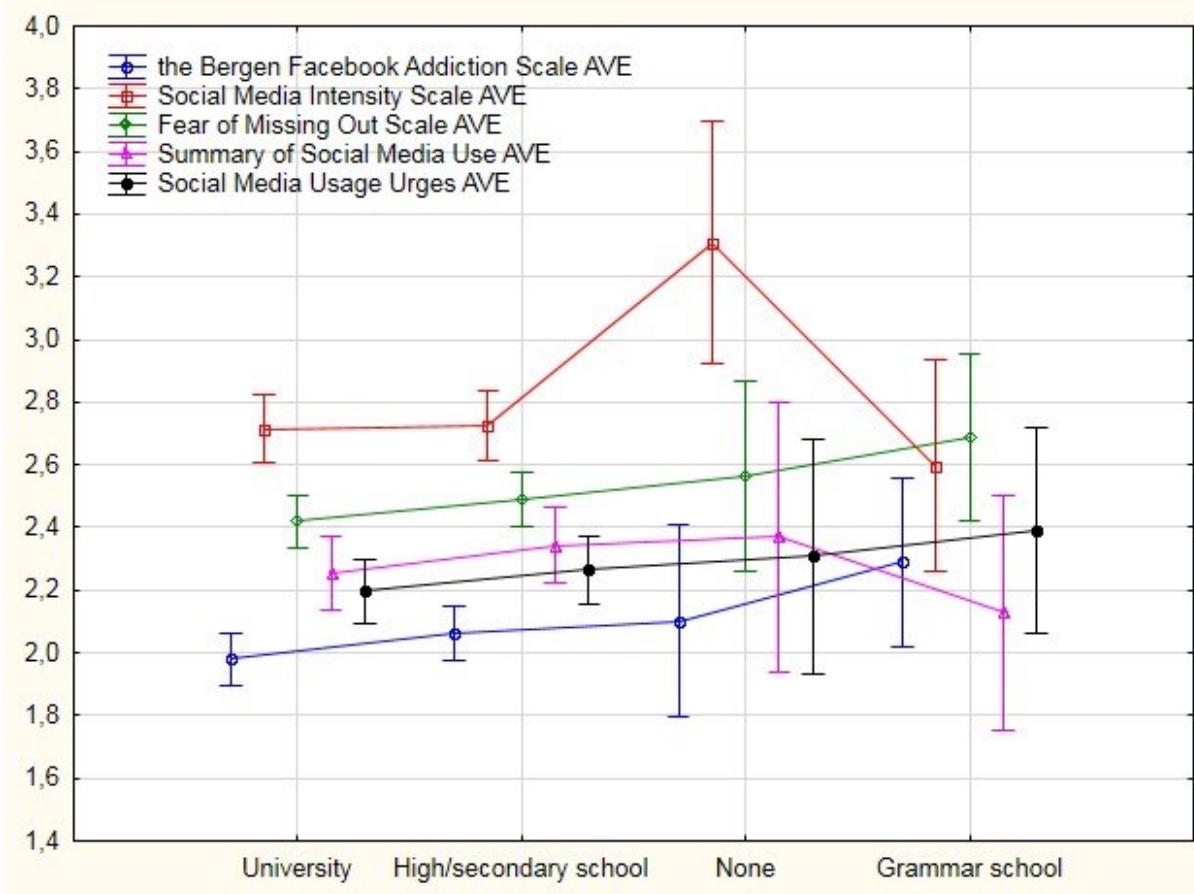
The higher level of formal education among parents, the lower FOMO results. Educational background of parents is one of the protective factors. It is noticeable that individuals whose mothers are less educated are at greater risk of FOMO. This dependency is statistically relevant for: Social Media Intensity Scale ($F=4.5$, $p<0.003$), Fear of Missing Out Scale ($F=2.88$, $p<0.03$), so statistically it does not apply to all aspects of FOMO.

Figure 2 FOMO and educational background of mothers



As for fathers, similar correlation can be observed only for: Social Media Intensity Scale ($F=3.8$, $p<0.02$). Based on the collected data, father's education is not relevant factor influencing FOMO. Thus, FOMO determinants should be looked for in deeper family conditions than formal education.

Figure 3 FOMO and educational background of fathers



Intensity of using SNS and translating this process into other aspects of PIU or parental control is significant ($R=0.72$). In this model, more than 53% records obtained from independent variables is related to Social Media Intensity Scale. Social Media Intensity Scale is affected the most by FOMO seen more from social perspective and in situations of inadequate use of SNS (during school classes or meetings with friends). Due to low confidence level, this model does not include the Bergen scale. It is a logical dependency, as Bergen addiction model is a dependent variable for intensity of using SNS (as a consequence), rather than its cause. When we take multilinear regression into account, parental control is a relevant protective factor. But when we consider b value, this parameter is not highly significant.

Table 9 Multilinear regression between Social Media Intensity Scale and other independent variables

N=719	Social Media Intensity Scale R= ,72883691 R^2= ,53120324 R2= ,52791575 F(5,713)=161,58 p<0.000					
	b*	Stt.Err of b*	b	Stt.Err of b	t(713)	Sig.
			0.695	0.098	7.02	0.000
Fear of Missing Out Scale	0.263	0.033	0.336	0.042	7.89	0.000
Summary of Social Media	0.199	0.034	0.180	0.031	5.77	0.000

Use						
Social Media Usage Urges	0.340	0.039	0.350	0.040	8.65	0.000
the Bergen Facebook Addiction Scale	0.074	0.038	0.095	0.049	1.92	0.055
Parents control	-0.091	0.027	-0.081	0.024	-3.34	0.000

Discussion

FOMO is one of the types of addiction to new technologies. FOMO can be generally classified as problematic Internet use. This phenomenon is strongly associated with the development of digital services aiming at connecting users with one another. This is done mainly through SNS (Walotek-Ściańska, 2017; Wojciechowski, Babjaková, 2015). FOMO is uncontrolled use of new technologies (Alt, 2017). Depending on its frequency, FOMO can be classified as problematic Internet use (answers in categories “3 - moderately true of me” and “4 - very true of me”) and as fully symptomatic destructive use of new media (answers 5 - extremely true of me). However, we need to point out that — contrary to computer games addiction — FOMO is not classified as a disease in DSM or ICD classifications (Griffiths, King, Demetrovics, 2014). This results mainly from difficulties in determining diagnostic criteria (Hetz, Dawson, Cullen, 2015). During recent years, we can observe an intense development of electronic services, including entertainment (Ziemba, 2016; Ziemba 2017). Changes resulting from intense development of information society, connected with increasing time people spend using new media and prevalence of new technologies that are “at hand” (smartphones), are also present in Bosnia and Herzegovina. Phenomenon of global teenager at risk of “Tech Neck” (Stunža, 2017; Rozkosz et. al.. 2014) is present all over the world, also in Bosnia and Herzegovina. The data obtained show that, depending on adopted perspective, extreme version of FOMO involves: Social Media Intensity Scale (approx. 1/3 of the respondents), Fear of Missing Out Scale (one in ten individuals), Summary of Social Media Use (about 1/3 of the respondents), Social Media Usage Urges (about 1/3 of the respondents), the Bergen Facebook Addiction Scale (15%). Presented distribution of variables was developed based on the most frequent indicators, thus average values for certain tests are slightly lower. It is estimated that one in three young users of new media in Bosnia and Herzegovina exhibits some symptom or symptoms of FOMO. In terms of PIU levels, it is estimated that there are 3 groups of young new media users. First one are users showing no FOMO syndrome (up to 50%), second group consists of users who occasionally notice symptoms of FOMO (about 30%) and third group are people affected by PIU (including FOMO). This requires further longitudinal studies, introduction of preventive actions and

taking into account methodological weakness of quantitative questionnaires addressed to adolescents (Francia, 2014; Plichta, Pyżalski, 2016). Data presented herein are very similar to the ones obtained in the only research into addictions conducted among the large group of youth in B&H. Therefore we can say the results are consistent (Hasanović, 2016).

At the same time, it should be pointed out that data are internally coherent, what is proved by high coefficient of linear correlation between certain tests. Besides, at present there is no clear definition of FOMO nor diagnostic criteria that would enable full, reliable and accurate identification of the phenomenon. Therefore, further studies require considering different research approaches towards FOMO, PIU, Internet addiction (Varlamova et al., 2015; Ilin, 2015; Griffiths, 2014). Collected data show that in the initial stage of adolescence there is no statistical difference between girls and boys experiencing FOMO. It also shows a range of known factors — such as hobby or parental control — protecting from destructive behaviors (Soh et.al, 2018; Bayraktar, 2017). Family situation (educational background of parents and income) has minimal influence on PIU among adolescents. The role of parents is unquestionable in modeling behaviors of safe functioning of adolescents in online and offline reality. Engaged parents are a protecting factor, however, according to the gathered data, it is not the only and sufficient factor. Future FOMO analyses should consider such factor as modeling safe behaviors among young people through analysis of Internet use patterns also among adults, and by analyzing the level of awareness of significant others regarding risky behaviors or sense of empowerment in the area of preventing risky behaviors. Educational impact cannot be measured solely by controlling the ways of using electronic media. In addition to previously mentioned factors, research model should also include the following: quality of family relations, family values, ways of spending free time, awareness of electronic threats or developmental characteristics of each stage of children's development

This study is the first analyses conducted in Bosnia and Herzegovina, diagnosing FOMO in a large population. Considering further research, another important factors should be taken into account, namely: differentiation of online activities, hobby carried out through the Internet, type, effectiveness and frequency of media prevention in certain types of schools, as well as level of knowledge about digital threats including digital resilience that becomes one of the factors protecting from risk behaviors mediated by media (Livingstone, 2017; Tomczyk, Srokowski, Wasiński, 2016). The above comments set new directions for research aimed at full understanding of FOMO.

Summary

Studies into FOMO are not so developed as research into other types of new media addictions (Griffiths, 2017; Vondráčková, Šmahel, 2015; Šmahel, Blinka, 2012). Nowadays, the importance of analyses of diagnosis and therapeutic work with new technology addicts is more and more often recognized. Addiction to games is listed as an official disease and new specializations in psychological therapy of Internet addicts are introduced (Kuss, Griffiths, 2015; De Abreu, Góes, 2012). However, considering the number of publications on addiction to new technologies in countries like Bosnia and Herzegovina, this problem seems to be hardly recognized. The presented research results intentionally fit into the risk paradigm of media pedagogy (Pyżalski, 2012; Kubiak, 2013; Potyrała, 2017), providing an opportunity to conduct further, more in-depth analyses of PIU.

Development of habits related to use of new media is particularly observable during adolescence. Patterns developed in this period are established in adulthood. Thus, there is a particular necessity to design preventive actions in Bosnia and Herzegovina, connected with risky behaviors, especially PIU. Such activities would lead to increased awareness of FOMO- or PIU-related threats among parents, teachers, stakeholders of education system and adolescents. Shift in knowledge is also connected with developing digital competences that include safe use of new media (Morbitzer, 2015; Błachnio, Przepiórka, Hawi, 2015). Finally, it is worth to point out that the obtained data can serve as a base to design new paths of media education in B&H, in the area of digital safety.

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